



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-4076; Directorate Identifier 2015-NE-30-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Rolls-Royce plc (RR) RB211-22B and RB211-524 turbofan engines with low-pressure turbine (LPT) support roller bearing, part number (P/N) LK30313 or P/N UL29651, installed.

This proposed AD was prompted by a report of a breach of the turbine casing and release of engine debris. This proposed AD would require removal of certain LPT support roller bearings installed in RR RB211-22B and RB211-524 engines. We are proposing this AD to prevent failure of the LPT support roller bearing, loss of radial position following LPT blade failure, uncontained part release, damage to the engine, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- Fax: 202-493-2251.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-4076; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Brian Kierstead, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7772; fax: 781-238-7199; email: brian.kierstead@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-4076; Directorate Identifier 2015-NE-30-AD” at the

beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2015-0187, dated September 9, 2015 (referred to hereinafter as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

An RB211-524G2-T engine experienced an in-service event that resulted in breach of a turbine casing and some release of core engine debris through a hole in the engine nacelle. The investigation of the event determined the primary cause to have been fracture and release of a Low Pressure (LP) turbine stage 2 blade. The blade release caused secondary damage to the LP turbine, producing significant out-of-balance forces. The event engine was fitted with an LP turbine support bearing where the roller retention cage is constructed from two halves that are riveted together. The LP turbine imbalance resulted in an overload of the LP turbine support bearing and caused separation of the riveted, two –piece roller retention cage. Radial location of the LP turbine shaft was lost, allowing further progression of the event that resulted in a breach of the IP turbine casing.

RR introduced a modified LPT support roller bearing that can withstand greater loads when an LPT turbine blade release occurs, thereby preventing LPT rotor

movement. You may obtain further information by examining the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-4076.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of the United Kingdom, and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design. This proposed AD would require removal from service of the affected LPT support bearings.

Costs of Compliance

We estimate that this proposed AD affects 9 engines installed on airplanes of U.S. registry. We also estimate it would take 0 hours to comply with this proposed AD since the proposed actions required by the AD would be performed during a shop visit, when major engine flanges are separated, which requires the removal of the LPT support roller bearing. Therefore, no additional time is needed to remove it. Parts would cost about \$8,184 per engine. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$73,656.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

“Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Rolls-Royce plc: Docket No. FAA-2015-4076; Directorate Identifier 2015-NE-30-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Rolls-Royce plc RB211-22B-02, RB211-22B (MOD 72-8700), RB211-524B-02, RB211-524B-B-02, RB211-524B2-19, RB211-524B2-B-19, RB211-524B3-02, RB211-524B4-02, RB211-524B4-D-02, RB211-524C2-19, RB211-524C2-B-19, RB211-524D4-19, RB211-524D4-B-19, RB211-524D4X-19, RB211-524D4X-B-19, RB211-524D4-39, RB211-524D4-B-39, RB211-524G2-19, RB211-

524G3-19, RB211-524-G2-T-19, RB211-524G3-T-19, RB211-524H-36, RB211-524H2-19, RB211-524H-T-36, and RB211-524H2-T-19 turbofan engines, all serial numbers, with low-pressure turbine (LPT) support roller bearing, part number (P/N) LK30313 or P/N UL29651, installed.

(d) Reason

This AD was prompted by a report of a breach of the turbine casing and release of engine debris through a hole in the engine nacelle. We are issuing this AD to prevent failure of the LPT support roller bearing, loss of radial position following LPT blade failure, uncontained part release, damage to the engine, and damage to the airplane.

(e) Actions and Compliance

Comply with this AD within the compliance times specified, unless already done. At the next shop visit or within 24 months after the effective date of this AD, whichever occurs first, remove from service LPT support roller bearing, P/N LK30313 or P/N UL29651, and replace with a part eligible for installation.

(f) Installation Prohibition

After the effective date of this AD, do not install an LPT support roller bearing, P/N LK30313 or P/N UL29651, onto any engine.

(g) Definition

For the purpose of this AD, a “shop visit” is defined as induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance does not constitute an engine shop visit.

(h) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(i) Related Information

(1) For more information about this AD, contact Brian Kierstead, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7772; fax: 781-238-7199; email: brian.kierstead@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2015-0187, dated September 9, 2015, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2015-4076.

Issued in Burlington, Massachusetts, on December 2, 2015.

Colleen M. D'Alessandro,
Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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